Abstracts

FET Model Statistics and Their Effects on Prediction for Microwave Design Centering and Yield Amplifiers

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The first and second order statistics for the model parameters of a TriQuint 0.5 µm GaAs FET are determined and then tested in a statistical circuit design and yield simulation. The purpose is to identify what statistical FET data is needed to statistically design a high yield MMIC amplifier. An example is used to identify which aspects of statistical circuit design are sensitive to the proper FET model statistics. It is shown that the design values are insensitive and the yield estimates are sensitive. The important issues in statistical circuit design are summarized and a discussion of the needed future works is given.

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